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Total Number of Pages in This Submission

7

Application Number

09/638,606

Filing Date

8/15/00

First Named Inventor

Sean P. Burns et al

Art Unit

3643

Examiner Name

Jeffrey L. Gellner

Attorney Docket Number

5702-00007

ENCLOSURES (Check all that apply)☐ Fee Transmittal Form☐ Fee Attached☒ Amendment / Reply☐ After Final☐ Affidavits/declaration(s)☐ Extension of Time Request☐ Express Abandonment Request☐ Information Disclosure Statement☐ Certified Copy of Priority Document(s)☐ Reply to Missing Parts/ Incomplete Application☐ Reply to Missing Parts under 37 CFR 1.62 or 1.63☐ Drawing(s)☐ Licensing-related Papers☐ Petition☐ Petition to Convert to a Provisional Application☐ Power of Attorney, Revocation Change of Correspondence Address☐ Terminal Disclaimer☐ Request for Refund☐ CD, Number of CD(s) _____☐ Landscape Table on CD☐ After Allowance Communication to TC☐ Appeal Communication to Board of Appeals and Interferences☒ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)☐ Proprietary Information☐ Status Letter☐ Other Enclosure(s) (please identify below):

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

L.C. Begin & Associates, PLLC

Signature

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Laurence C. Begin

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11/26/07

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Group Art Unit 3643
Examiner Jeffrey L. Gellner

Sean P. Burns et al.

REPLY BRIEF

Application Serial No. 09/638,606

Filed August 15, 2000

For: SELECTIVE NON-CATALYTIC REDUCTION
(SNCR) OF TOXIC GASEOUS EFFLUENTS
IN AIRBAG INFLATORS /

November 25, 2007

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313

Sir:

This is an appeal from the final rejection of claims 21, 23, 25, 27, 29, 31 and 34-47 set forth in the office action mailed on September 25, 2006. Responsive to the Examiner's Answer having a mailing date of September 24, 2007, and having a two-month period of response, Applicants present a reply brief pursuant to 37 C.F.R. 41.41.

Response to Examiner's Arguments

The examiner has repeated the same arguments presented from 26 June 2006 in pages 1-6 of the Examiner's Answer. The applicant has responded to these in the appeal brief and stands by those arguments, all incorporated herein in their entirety.

Additionally, on page 7, the examiner has indicated in the first two paragraphs a summation of the arguments presented by the applicants in the appeal brief. Below that on page 7, the examiner indicates:

"Examiner considers Pacanowsky et al. to disclose the SNCR compound (ammonium sulfate) to be either in a heterogeneous relation *to the rest of the composition* or in a proximate, separate, and interspersed relation *to the rest of the composition*. In general, the compounds in the composition of

Serial No. 09/638,606
Reply Brief

Atty Docket No. GIO-007-US
5702-00007

Pacanowsky et al. are finely divided particles (from col.4 lines 63-68). Hence, the ammonium sulfate would be interspersed, because they are mixed (col. 4 lines 63-68), and separate because particles, by definition, are separate entities. As Applicants point out the compounds are "thoroughly mixed" at col. 4, line 68. However, "thoroughly mixed" has no objective standard. Therefore, a thoroughly mixed composition will have some, or different, level(s) of heterogeneity to it and still be considered thoroughly mixed. Since Pacanowsky et al. anticipate differences in the final mixture from their use of the language "desired uniformity" (at col. 5, lines 6-7), there will be some degree of heterogeneity in any thoroughly mixed composition." (*emphasis added*)

Applicants note that the examiner's analysis of the degree of mixing takes place within the composition, and it must. For not including the ammonium sulfate within the composition would contravene the invention presented by Pacanowsky, that is decreasing the sensitivity of the gas generant composition to compressive acceleration forces. Not including ammonium sulfate within the composition would result in the problem that Pacanowsky is trying to solve. In contrast, the heterogeneity and the separateness referred to in the claims is between an SNCR compound and a gas generant composition, two separate constituents of a gas generator.

All of the present claims are directed to a gas generant composition, and an SNCR agent separate and proximate from the gas generant composition, or in heterogeneous relationship to the gas generant composition. It must by definition therefore be separate from the composition. It cannot, as urged by the examiner, be a part of the composition, and yet be separate and proximate thereto. As described by Pacanowsky, ammonium sulfate is *intimately mixed* within the composition. Note claims 1-11 and note the abstract of Pacanowsky, for example.

The gas generant composition of Pacanowsky is also considered to be a solid composition. See column 1 of Pacanowsky. This composition is not considered to be a loosely configured collection of particles as interpreted by the examiner. Note that Pacanowsky actually describes the physical characteristics of these compositions:

Serial No. 09/638,606
Reply Brief

Atty Docket No. GIO-007-US
5702-00007

"In some respects, gas generating compositions are similar to solid propellant compositions used to power rockets and missiles. Like missile propellant compositions, gas generating compositions must fulfill certain stringent physical requirements to be acceptable. For example, like missile propellant compositions, gas generating compositions should be ballistically stable after prolonged storage at extreme temperatures ranging from as high as 180 F to as low as -80 F. In addition, particularly for aerospace and missile applications, the compositions must be readily ignitable within these same temperature ranges. ***Furthermore, the compositions must be relatively insensitive to shock, have substantial elasticity to minimize gaps or voids and must burn evenly and consistently.***" Column 1, lines 28-42 (emphasis added)

The emboldened and italicized text of Pacanowsky indicates at least inherently and implicitly, that the gas generant compositions are solid tablets, or other solid shapes, that exhibit elasticity. The powdered gas generant composition urged by the examiner would not exhibit the desired elasticity, but would instead just shift amorously depending on the forces exacted upon it. Furthermore, failure to intimately mix the gas generant composition would result in an uneven and inconsistent burn of the gas generant composition.

In essence, Pacanowsky does not teach or describe powdered compositions, but instead teaches and describes solid compositions that exhibit a certain degree of elasticity. The composition exhibiting elasticity is certainly different from maintaining that powdered compositions maintain elasticity. This distinction is important to show that adding that there is no heterogeneous relationship between the gas generant fuel, oxidizer, and ammonium sulfate; they are integrated and become the gas generant composition. A composition must be mixed. In contrast, in accordance with the present invention, ammonium sulfate remains mutually exclusive, or in heterogeneous relationship to the gas generant composition. It is not part of the gas generant composition, even though that is apparently what the examiner is urging.

Furthermore, the distinction between the gas generant composition and the SNCR agent of the present invention is not made on the particulate level. This is evident throughout the specification. Rather, a gas generant composition exists as a

Serial No. 09/638,606
Reply Brief

Atty Docket No. GIO-007-US
5702-00007

separate phase from the SNCR compound, e.g. ammonium sulfate. In Pacanowsky, the failure to mix the ammonium sulfate within the composition would be counterintuitive to what Pacanowsky teaches is required to formulate compositions that are insensitive to accelerating forces. Pacanowsky clearly indicates that an intimate mixture is required, and that simply sprinkling the ammonium sulfate about the gas generant composition is not in accordance with his invention, for a heterogeneous relationship between the gas generant composition and ammonium sulfate would not constitute an intimate mixture. Again, see the abstract and the claims for example.

The Examiner is respectfully advised that, "a statement that modifications of the prior art to meet the claimed invention '*would have been well within the ordinary skill of the art at the time the invention was made*' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teaching of the references." *Ex parte Levengood* 28 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993) See also *In re Kotzab* 217 F. 3d 1365, 1371, 55 USPQ 2d 1313, 1318 (Fed. Cir. 2000)

Furthermore, the Examiner fails to appreciate that Pacanowsky must be viewed *as a whole* as should any other reference when applied under 35 U.S.C. 103. When viewed as a whole, it becomes apparent that Pacanowsky describes solid elastomeric compositions, intimately mixed, to provide gas generant compositions that are insensitive to the compressive acceleration forces that they would typically be exposed to. Accordingly, the Examiner is advised that the prior art references must be considered in their entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)

Poole – Insufficient Motivation to Combine

Notwithstanding the arguments presented in the examiner's answer, the

Serial No. 09/638,606
Reply Brief

Atty Docket No. GIO-007-US
5702-00007

examiner has not addressed that Poole simply does not motivate one of ordinary skill in the art to use ammonium sulfate within or apart from the gas generant compositions described by Poole, because alkali metals are integrated and intimately mixed into the respective compositions of Poole thereby obviating the problem of nitrogen oxides.

In support thereof, Applicants respectfully note that, "there are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however, without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.) The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *AI-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) Applicants note that the Examiner has not shown the requisite motivation or suggestion to combine Poole with Pacanowsky as required to support a *prima facie* case of obviousness.

Applicants also reiterate that all of the limitations of the claims are simply not described in the cited references. The references when taken alone or together must disclose all of the limitations of the claims or a *prima facie* case of obviousness is not supported. A gas generator containing a gas generant and ammonium sulfate in a proximate and separate, or heterogeneous relationship, is simply not described in either reference when taken alone or in combination with the other. Both references describe compositions, not a composition with a compound scattered about the composition.

In sum, none of the references when taken alone or when taken together suggest or describe the present invention. Stated another way, for the reasons given, a *prima facie* case of obviousness cannot be supported by references that teach away from the present invention, nor can it be supported without the requisite showing of a

Serial No. 09/638,606
Reply Brief

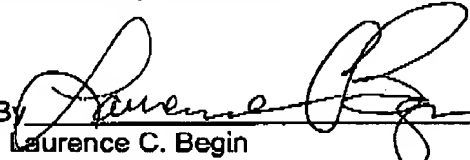
Atty Docket No. GIO-007-US
5702-00007

motivation to combine the references, nor can it be supported unless all of the limitations are described in the references when taken alone or together.

Accordingly, applicants respectfully traverse the rejection of the pending claims and courteously solicit the allowance of these claims and passage of the subject application to issue.

Applicants have not calculated a fee to be due in connection with this paper. The Commissioner is authorized to charge any deficiencies (or credit any overage) related to this paper to deposit account no. 50-3238.

Respectfully submitted,

By 

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